

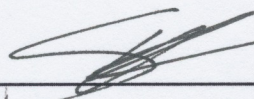
RICE UNIVERSITY  
Towards a Greater [W]hole:  
Understanding Form in the City's Psyche

by  
Sue Y. Biolsi

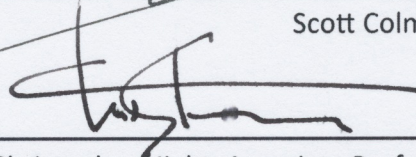
A THESIS SUBMITTED  
IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE

Masters of Architecture

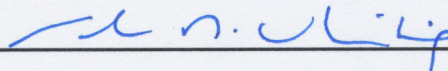
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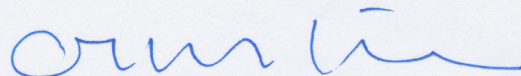
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MAY 2012

## ABSTRACT

### **Towards a Greater [W]hole: Understanding Form in the City's Psyche**

by

Sue Y. Biolsi

This thesis investigates the part-to-whole relationship in architectural and urban design, and the dialectic that exists between the conceptual and the perceptual in the built environment. Working with Gestalt principles and traditional architectural conventions, this project seeks a greater understanding of how basic graphic relationships enhance our perception of the built environment, in order to find new ways in which architecture can respond to the contemporary city. This project is located in Seoul, Korea, a city currently lacking a contemporary architectural identity. It is a city of multiplicity but no coherence, and this thesis seeks to understand how the dynamic relationship between parts in the built environment can encourage greater unity at the scale of architecture and the city.

## ACKNOWLEDGEMENTS

I would like to give special thanks to all the people who made this thesis and Master of Architecture degree possible. I feel honored to have worked with a very special group of people during my graduate career at Rice University, and I am forever grateful to them.

Words cannot fully express my gratitude and appreciation for my thesis advisor, Christopher Hight, and his continual support throughout my time at Rice. His dedication, intellect, enthusiasm and overall brilliance inspired me everyday and without his encouragement my project would not have been the same. He challenged me to be a better designer and a more critical thinker, and working with him made this process the most enriching experience of my architectural career so far.

I would like to thank Sarah Whiting for being such a great leader and inspiration to the school. I am thankful for all the advice and support she has given me. I would also like to thank Albert Pope and Scott Colman for their wisdom and encouragement during pre-thesis and beyond, as well as the RSA community. I feel very fortunate to have had the opportunity to work with such amazing people, and their feedback throughout the process was invaluable. I would also like to thank the donors of the John T. Mitchell Travelling Fellowship, who made the travel research for my thesis possible.

I would also like to thank Professor James R. Pomerantz, Professor of Psychology at Rice University, for his support. He provided me with great insight and knowledge about Gestalt psychology. His writings and expertise have been a very important resource for my thesis, and I am very grateful for his support throughout this process.

In addition I would like to thank my closest friends and colleagues from Rice University, Sara Hieb, Kelly Barlow and Sean Kizy. Their genuine support, comradery and intellect was critical to my graduate experience and I am so appreciative of their friendship. I would also like to thank Josh Herzstein, Giorgio Angelini and Serge Zotov for graciously giving up their time to help me during the final week of charrette, it would not have been possible to complete all the work without them.

Lastly I would like to thank my parents, without whom none of this would be possible. For their love and support everyday of my life, I dedicate this to them.



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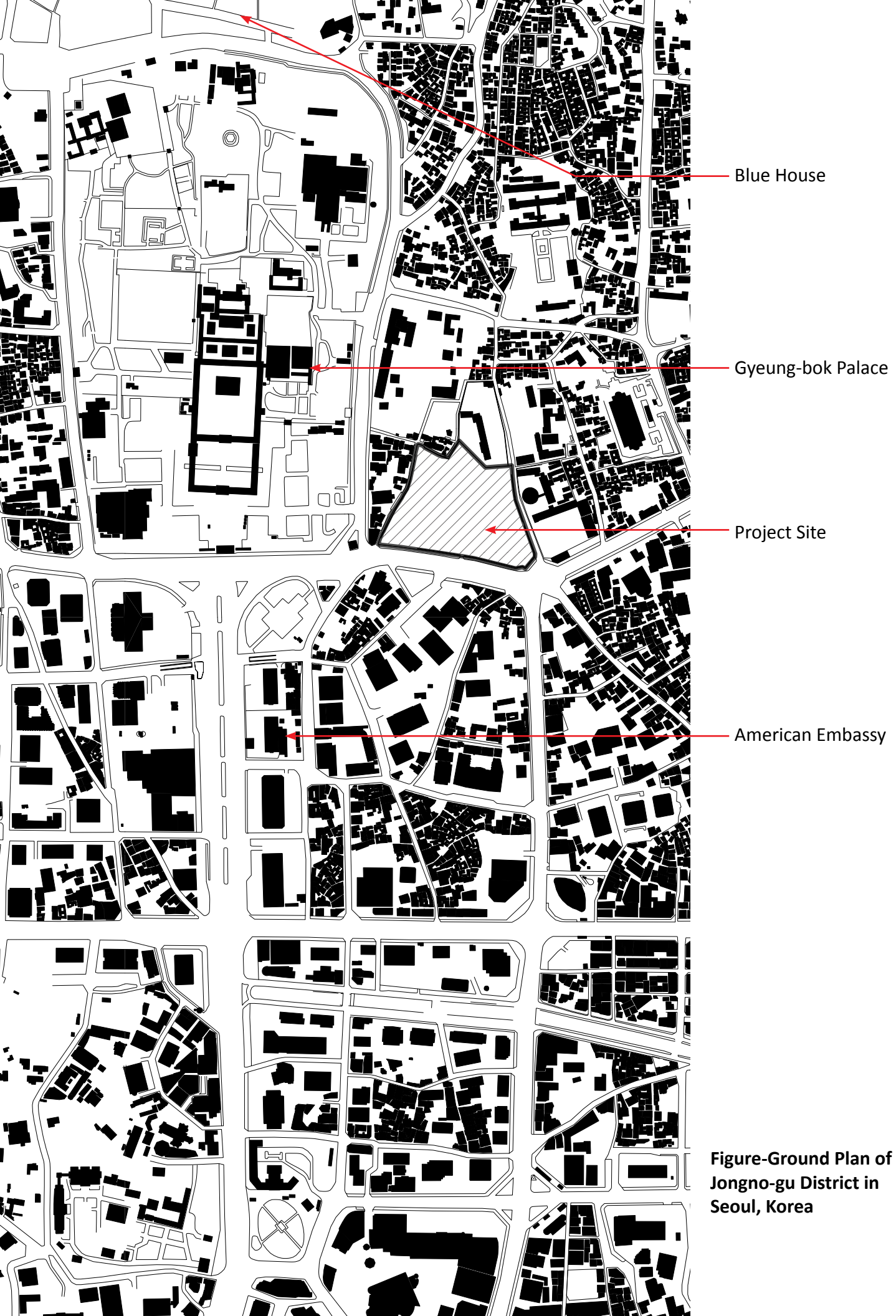


Figure-Ground Plan of  
Jongno-gu District in  
Seoul, Korea

# **Towards a Greater [W]hole:**

## **Understanding Form in the City's Psyche**

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### **INTRODUCTION:**

This thesis investigates the part-to-whole relationship in architectural and urban design in order to understand how architecture can suggest a greater coherence among the fragmented and disordered parts of the contemporary city. Using principles of Gestalt psychology, this formal investigation aims to understand the relevance of theories of perception within the discipline of architecture in order to gain a better understanding of how humans perceive form and aesthetics in the built environment. Using Gestalt principles as architectural operations, this thesis searches for greater order and coherence in the contemporary city.

The project site is located in Seoul, Korea, a city currently lacking a contemporary architectural identity. The city is composed of disparate architectural forms that feel disconnected and fragmented. Seoul is a city of many conflicting dualities and lacks coherence, and is thus hard to define in terms of a singular style. This thesis seeks to understand how the dynamic relationship between parts in the built environment can suggest greater unity at the scale of architecture and the city, provoking an identity of potential and multiplicity.

## **BACKGROUND:**

This project is focused on the site of a former American embassy compound in Seoul, Korea. The United States has over 300 embassies and consulates on foreign territory. These consulates (and the compounds that house State Department employees), are costly and are typically located in the center of the cities in which they are situated. Embassies and embassy compounds are often controversial developments. These private, high-security compounds can be traumatizing for a neighborhood because “the presence of a massive U.S. Embassy is seen as an indication of who actually exercises power in their country.”<sup>1</sup> These developments create borders within the urban fabric and act like cities within the city, because of the variety of program and activities they support.

These mini-cities sustain large populations and have their own recreational, educational and medical facilities. Infrastructurally connected but physically separated by walls that run the perimeter of their sites, these compounds create clear divisions between cultures and people. They not only have drastic physical impacts on the city, but they have psychological effects as well. Their insularity amplifies the separation of worlds that borders create, as well as their disengagement from their host city. However when foreign relations change with the U.S. and compounds have to be evacuated these large sites, charged with political, cultural and historical meaning, demand a careful architectural solution that can return something very valuable to their place, and simultaneously celebrate progress.

## **SITE:**

Seoul, South Korea is a city that lacks coherence. It is a field of disordered parts with no legible whole. Seoul was largely demolished during the Korean War after being occupied by Japan for 35 years, and because of this had to undergo rapid reconstruction, leaving the fragmented city that exists today. The city developed with no coherent planning or overall organization and is ill equipped to accommodate the needs of contemporary society. Korea is a country that as a whole

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<sup>1</sup> “New Embassy in Iraq cloaked in mystery” MSNBC News. 2011 Mar 20 [cited 2006 Apr 14]. Available from: [http://www.msnbc.msn.com/id/12319798/ns/world\\_news-mideast/n\\_africa/](http://www.msnbc.msn.com/id/12319798/ns/world_news-mideast/n_africa/)





Existing wall around site

is divided and Seoul is currently lacking a contemporary architectural identity. It is characterized by a mash-up of historic traditional buildings fighting to be preserved next to very dense pockets of modern development. The old being characterized by an enclosed archipelago model and the new trying to find a place within that context. This thesis is located in Jongno-gu, which is one of the oldest districts in Seoul and is representative of this condition.

The project site was first occupied by Japan during the Korean War. The land was turned over to the US government in 1945 to house American diplomats, and acted as the American embassy compound in Seoul for the following 60 years. During this time, the Korean public was never allowed on the site, physically separated from its interior by the 100-year old stone wall that defines its perimeter. The wall signified security and drew clear lines between cultures. In 2005 the Korean government refused to allow the US to renew its lease on the land and forced American diplomats to relocate. The land has been vacant ever since but the stone wall remains, creating a massive enclosed hole in the city fabric. Located in a Landmarks district, with the President's House to the north and the American Embassy to the south, this site is illustrative of Korea's challenging history.

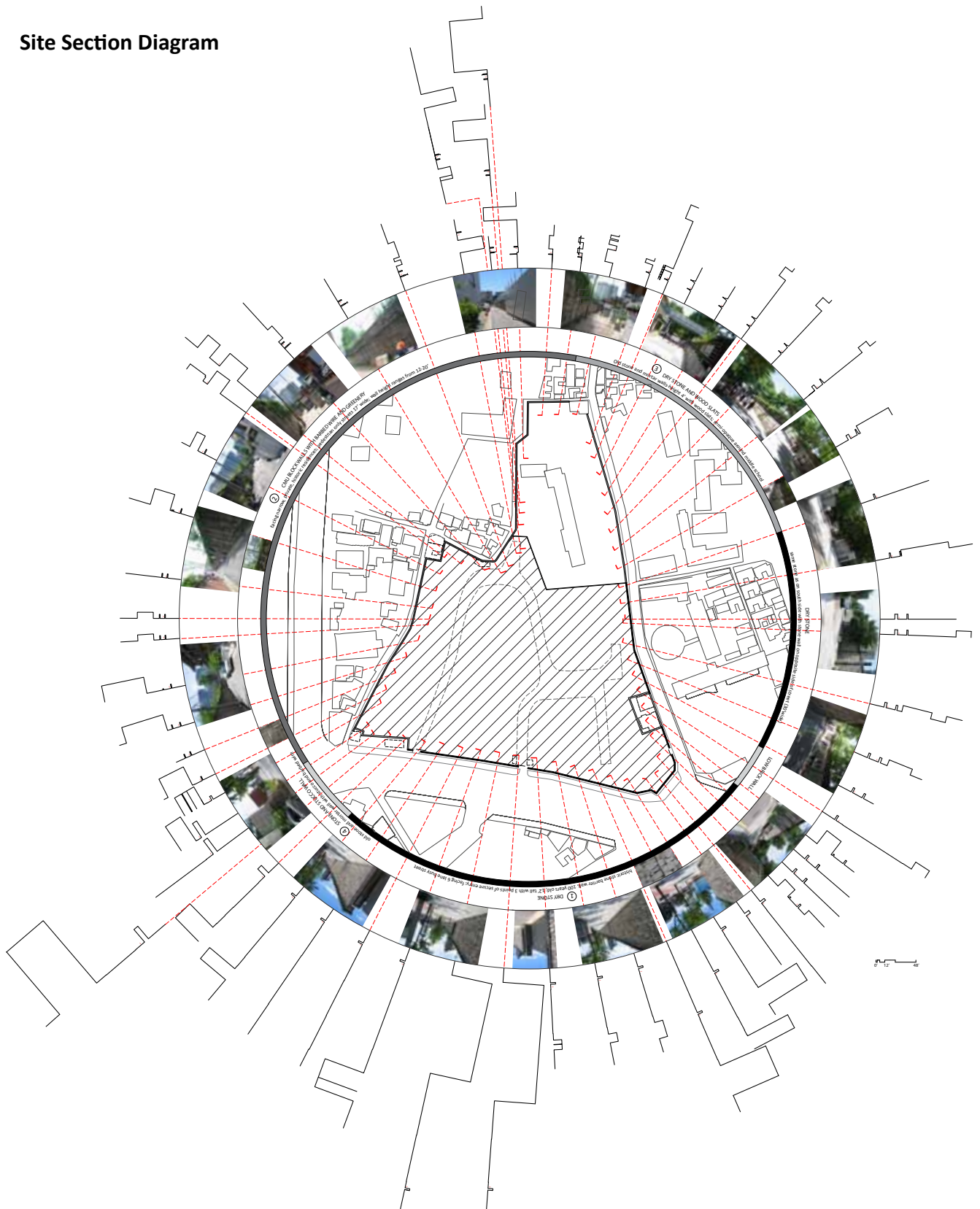
Large-scale borders create dead zones in the city and this site is an example of this effect.<sup>2</sup> The scale of the territory and the impenetrable wall that separates it from its context discourages pedestrian activity which in turn reduces commercial profit and viability. The site needs to be returned to the Korean public. This thesis takes into account the historical significance of the project site in order to find a sensitive architectural solution that can contribute to the city of Seoul and its people.

Since the perimeter wall remains, the extent of the site (the whole) is registered, but, because of its scale, it cannot be read in a single view except from above. The wall's original function of protection is lost since the site was evacuated and now expresses separation, division and tension. In order to find a new purpose for the wall and return the land to the public, this thesis proposes an architectural intervention that can register its memory and historical significance. By incorporating the existing wall in the design of a national monument on the site, this thesis tries to mend the city back together by phenomenologically breaking down this border.

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2 Jacobs, Jane. *The Death and Life of Great Cities*. (Random House Inc., 1961), p.338.

## Site Section Diagram



By testing the relationship of the parts of the building to the perceptual whole of the site, and the relationship of the whole to its greater context, this thesis seeks to understand the symbolic potential of architectural form.



## FORMAL INVESTIGATION:

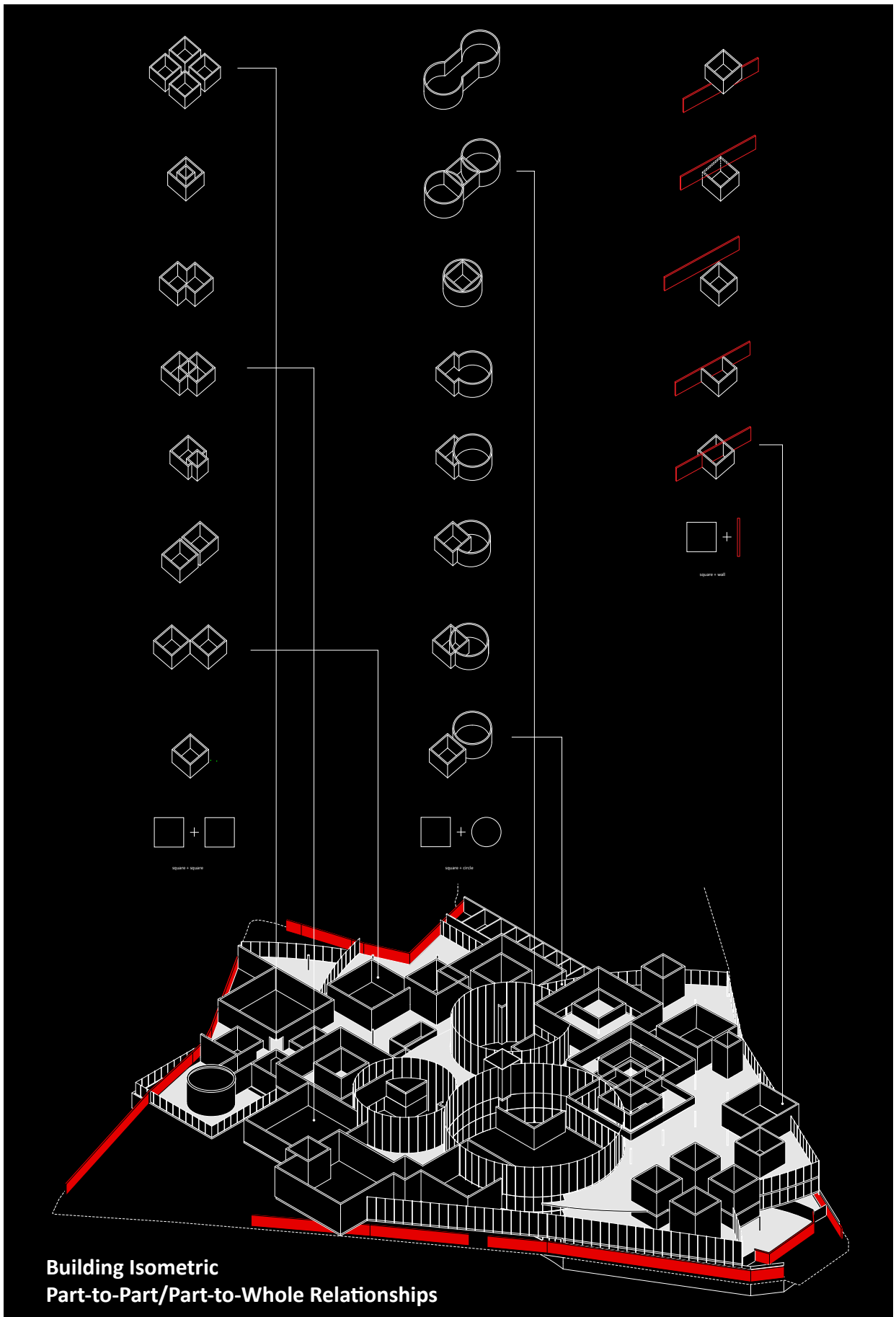
The part-to-whole relationship of the site (which acts like an island in the city) and its context (the sea) are critically examined at the macro and micro scale: at the macro scale the relationship of the site, which acts as both a closed figure and a void, are analyzed to understand the effects of the border wall on its context. At the micro scale the relationship of the border (the whole) to its interior is analyzed in order to create a greater part-to-part and part-to-whole relationship. Principles of Gestalt psychology such as symmetry, similarity, continuity, closure, proximity, figure ground and part-to-whole are utilized in this thesis as a tool to understand how to organize and architecturalize what is currently an empty symbol in the city.

Gestalt psychology, a field initiated by Max Wertheimer in Germany in the 1920s is a branch of psychology focused on perception, which seeks to explain the cognitive response in humans to objects and aesthetics. The theory, which brought awareness to the perceptual experience of expression, deals with laws of perception based on the idea that the mind has organizing tendencies and groups things together. “The word gestalt has the meaning of a concrete individual and characteristic entity, existing as something detached and having a shape or form as one of its attributes...objects we perceive are always located in self-organizing systems, and what happens to a part of the whole, is determined by intrinsic laws inherent in this whole.”<sup>3</sup>

Gestalt theorists sought to understand what it is people perceive, what the experiences of perception are, and tried to place theories of perception on a more scientific ground. The movement gained momentum in architectural theory and practice during the 1970s for it contains valuable theoretical and practical capabilities in architecture and urban planning. Where Gestalt psychologists failed to fully explain the response to form and aesthetics incorporating movement, this project aims to bridge the gap between theory and practice by testing the dynamic relationship between plan and experience, perceptual and conceptual, and Gestalt and phenomenology. The part-to-whole relationship is tested through the exploration of an existing building typology (the museum) that has constraints to the relationships among its parts. By testing the limits of these constraints and its formal relationships, the role of architecture can be expanded.

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3 Koffka, Kurt. *Principles of Gestalt Psychology* (Harcourt, Brace and World, 1963), p. 683.



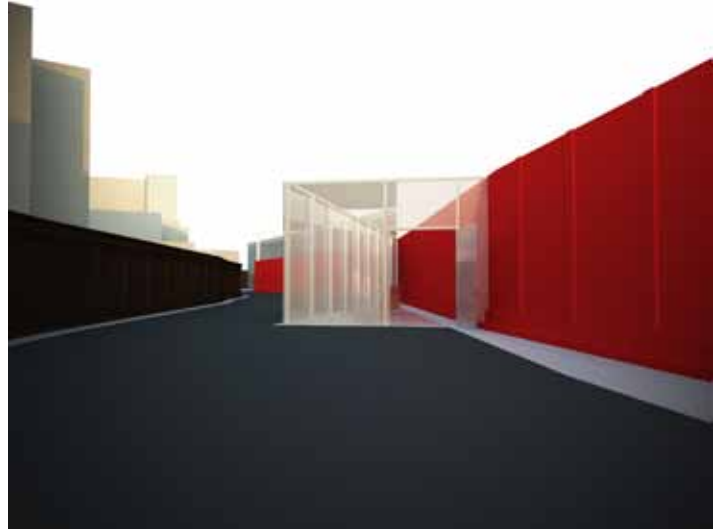
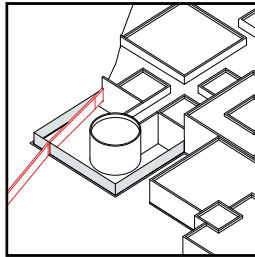
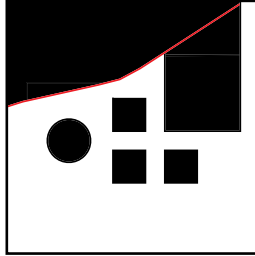
**Building Isometric**  
**Part-to-Part/Part-to-Whole Relationships**

## Architectural/Gestalt Operations

### Figure Ground

*We perceive the part that has greater density to be the figure. Objects in closer proximity appear foreground.*

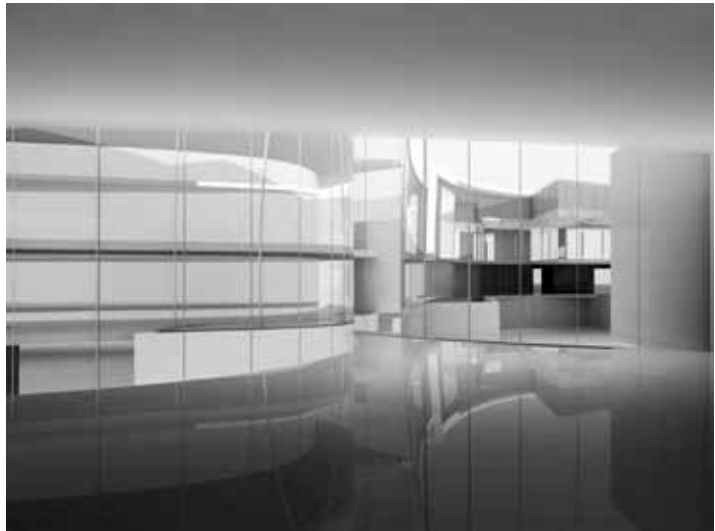
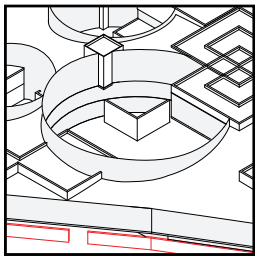
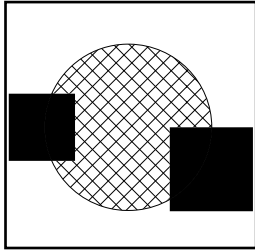
The interior/exterior relationship gets flipped on either side of the wall. Exterior courtyard envelopes the wall and the figure ground relationship activates the experience of the building.



### Proximity

*We perceive parts based on proximity, and pairs gain stability in multiplication.*

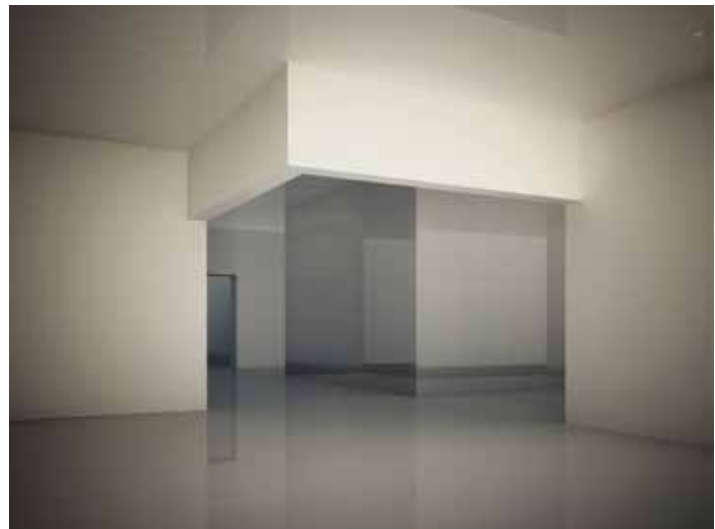
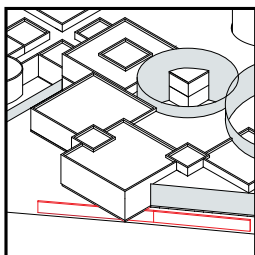
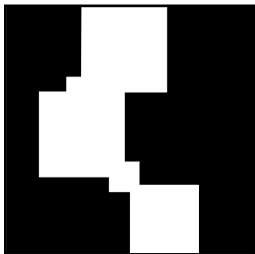
Proximity is articulated in form and program. Formal continuities create proximities and visibilities among the different curatorial departments.



### Closure

*Closed areas are more unstable than unclosed ones.*

Closure is expressed in plan and spatially where connections are made through openings in galleries.

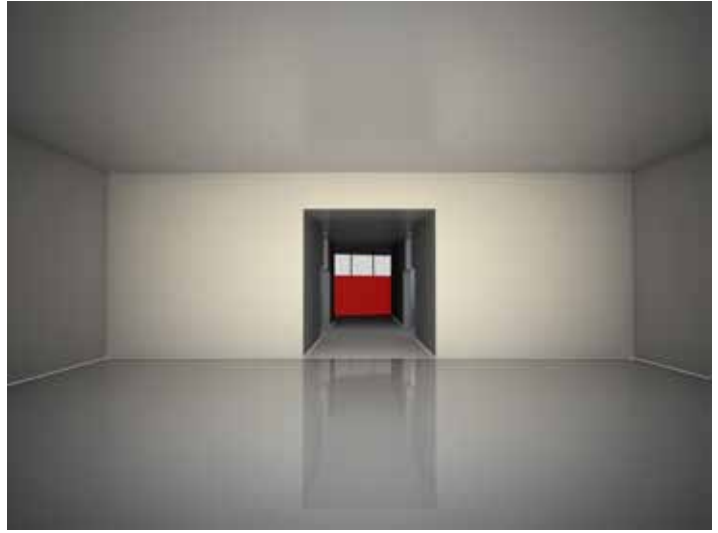
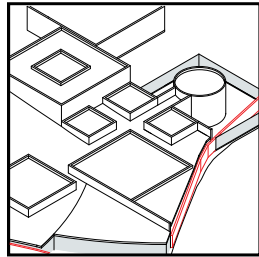
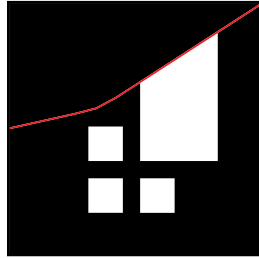




## Symmetry

*The mind wants to perceive order and symmetry. Nature produces order like the mind organizes the environment.*

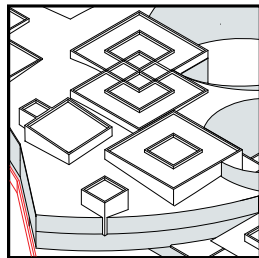
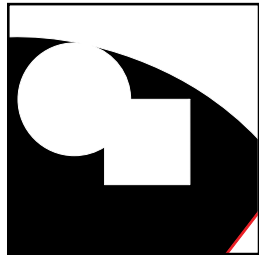
Symmetry is explored throughout the plan. Galleries (objects) are placed within the field and within other galleries which explore the experience of symmetry in form.



## Continuity

*We put closed figures at a higher order.*

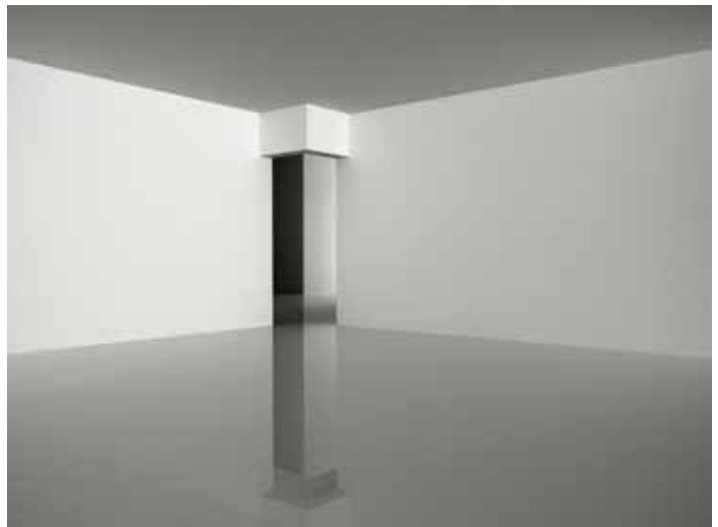
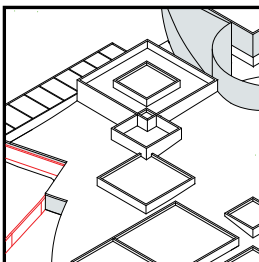
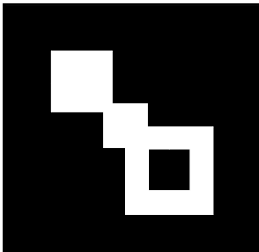
Continuity of lines and form create visual continuities and programmatic connections. Continuity is experienced in plan and section, connecting different galleries and courtyards throughout the museum.



## Similarity

*Equality of form takes predominance over equality of color. Shapes seek equality and proximity.*

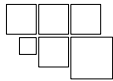
The galleries are similarly shaped but vary in scale. As one circulates through the museum they move through a repetitive sequence that starts to orient and locate the viewer within the museum and in relation to the wall.



# Program Diagram

## Entry

Entry Lobby	3000 SF
Coats	1000 SF
Reception	3000 SF
Shop	3000 SF
Cafe	6000 SF
Loading/ Unloading	3000 SF



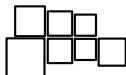
## Pre-War Exhibit

Large gallery	7400SF
Gallery	3@1500 SF
Gallery	2000 SF
Gallery	3000 SF
Small gallery	800 SF



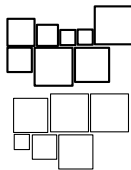
## Post-War Art Exhibit

Gallery	3000 SF
Gallery/ Installation	5000 SF
Gallery	2@2000 SF
Small gallery	2@1500 SF
Gallery	2500 SF



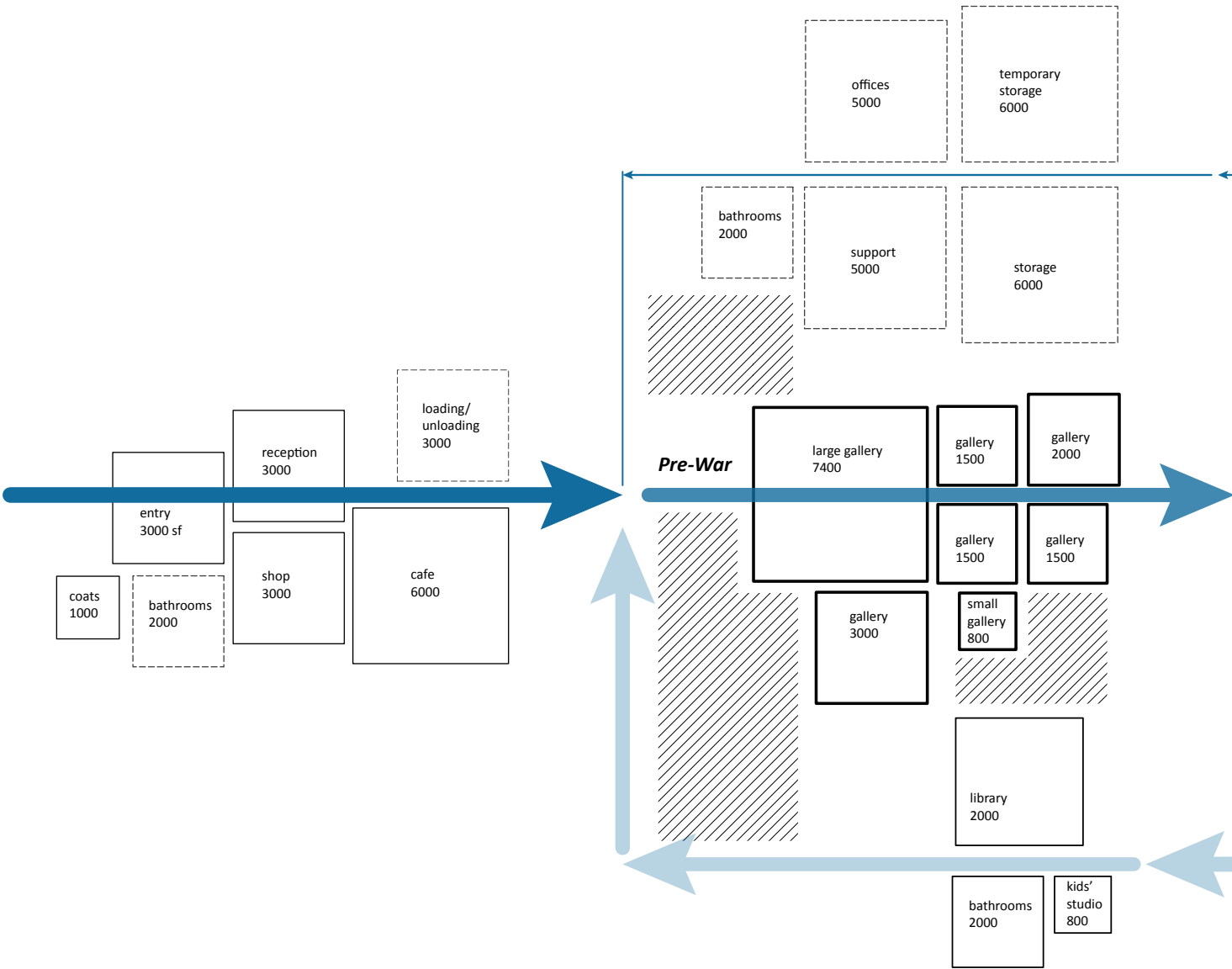
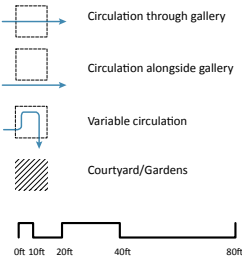
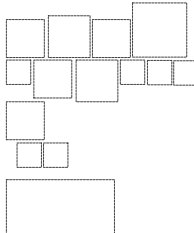
## Future Art/Culture Exhibit

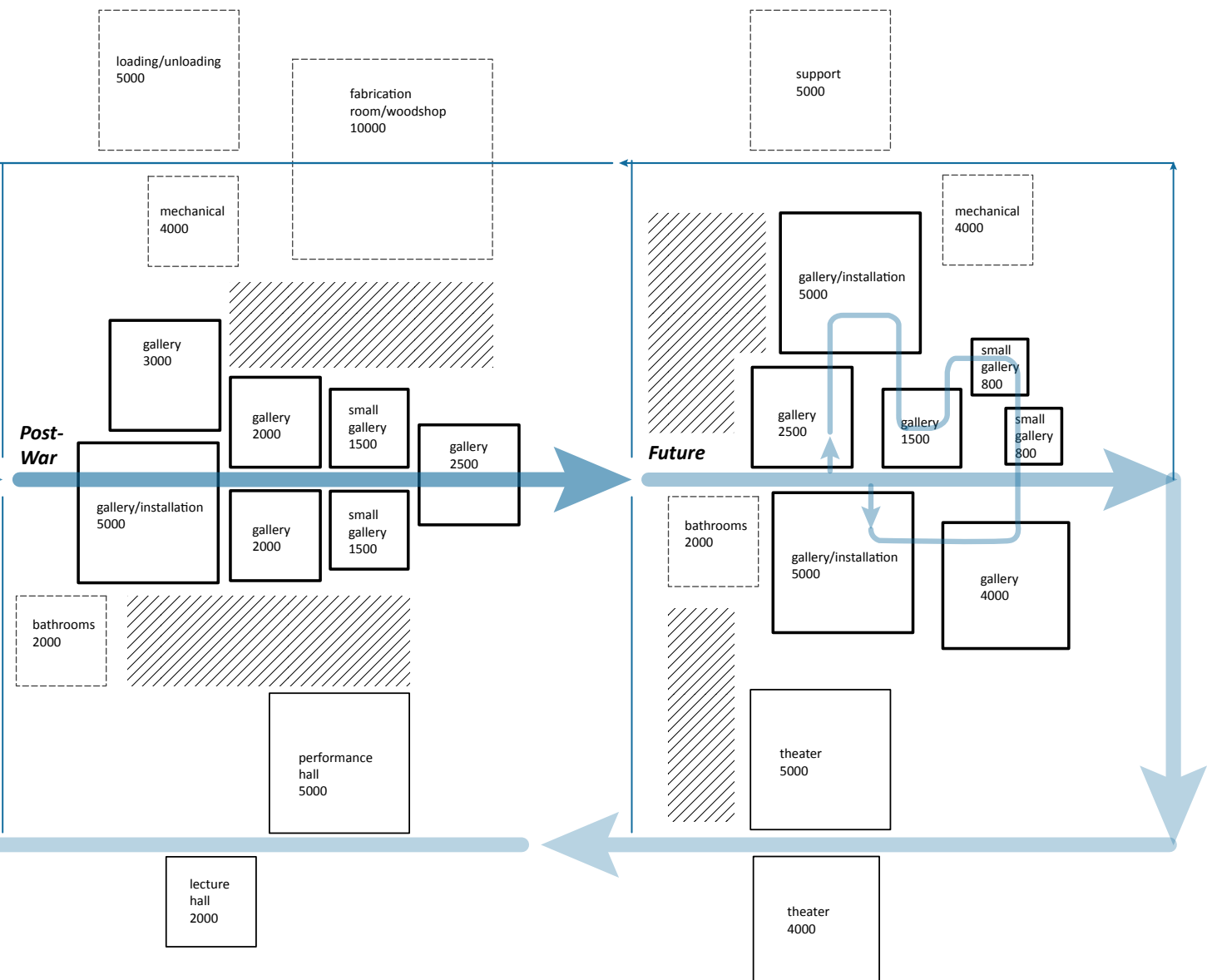
Gallery	2500 SF
Gallery/ Installation	2@5000 SF
Gallery	1500 SF
Small gallery	2@800 SF
Gallery	4000 SF
Library	2000 SF
Kids' Studio	800 SF
Lecture Hall	2000 SF
Performance Hall	5000 SF
Theater	5000 SF
Theater	4000 SF



## Support/Mehanical

Bathrooms	6000 SF
Offices	5000 SF
Support	10000 SF
Temporary Storage	6000 SF
Storage	6000 SF
Loading/ Unloading	5000 SF
Woodshop	10000 SF
Mechanical	8000 SF
Circulation	20000 SF



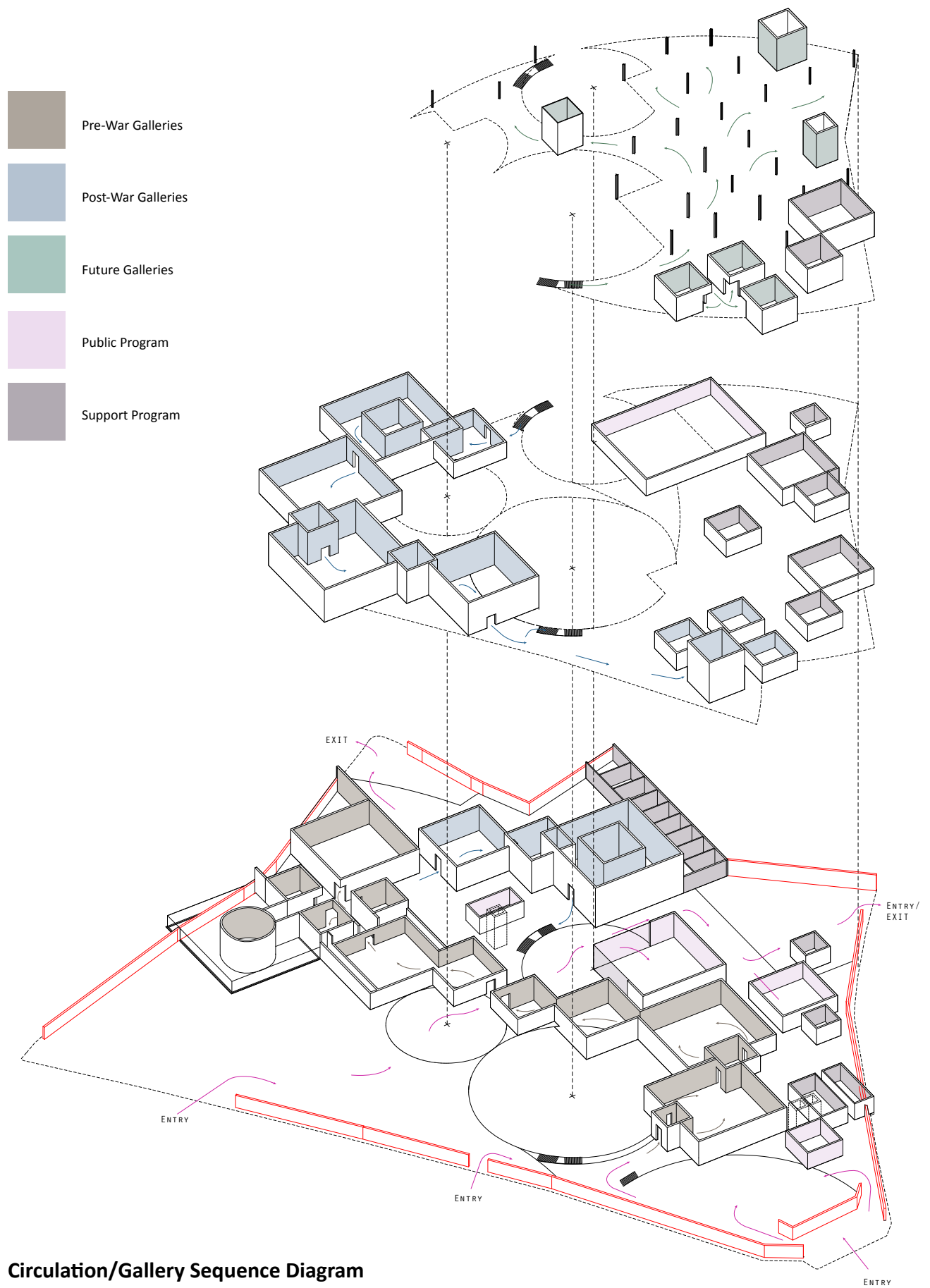


## **PROGRAM:**

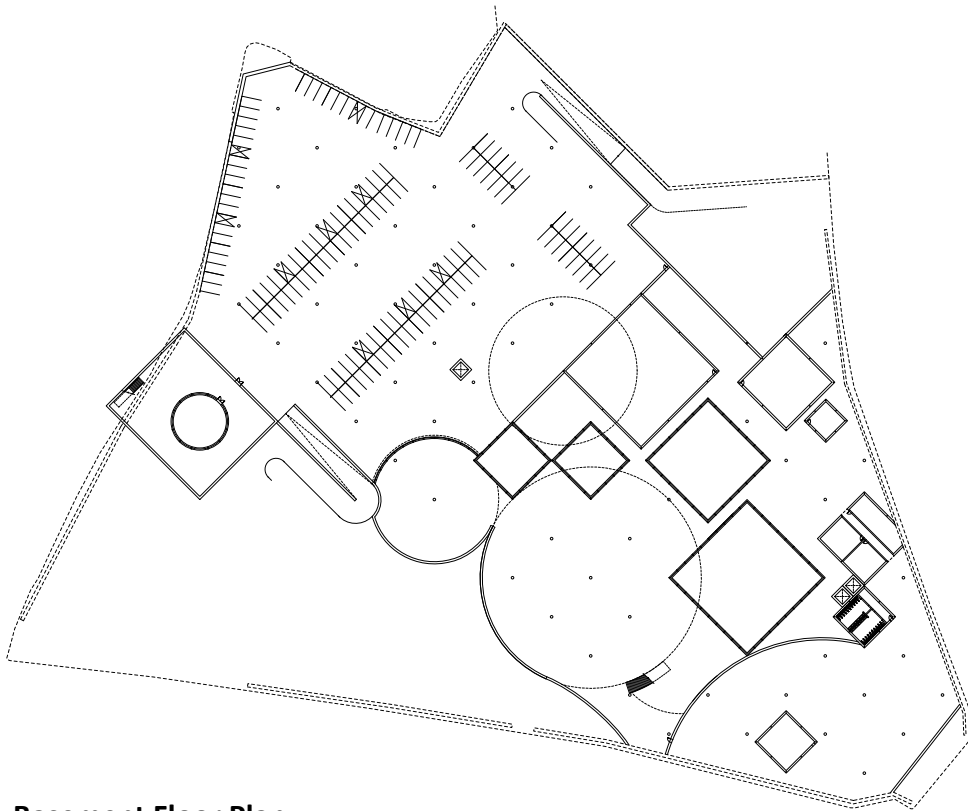
Typology and design process are studied with equal importance to find a significance for the wall beyond that of its original function. By designing a national contemporary art museum, this project respects the history of the site and re-connects it back to the city through its form. In order to monumentalize the wall's significance as a cultural and historical artifact, this thesis proposes a museum, which can conceptually give the site back to the public in order to create a new national monument for this city and culture that's struggling to find its identity. Because this area is frequented by new tourists who are learning about the city for the first time and old residents who have witnessed the city change, this museum needs to be legible as a cultural monument to both the new and old public.

Museums construct identities, they are representations of the whole city or whole history, so this thesis organizes the museum's programmatic components within this fragmented whole in a way that creates a new understanding of the site and wall's place in history and the future of the city. National museums are typically laid out in a linear sequence that takes the visitor through a chronological sequence of history. But this thesis seeks to restructure and reformulate our relationship to the past, present and future histories of the city through the relationship of the internal organization of the museum parts to the external whole, or the wall. The galleries are organized into 3 departments, taking the visitor through a sequence of pre-war, post-war and future art. The curatorial sequence has a linear organization but a non-linear experience.

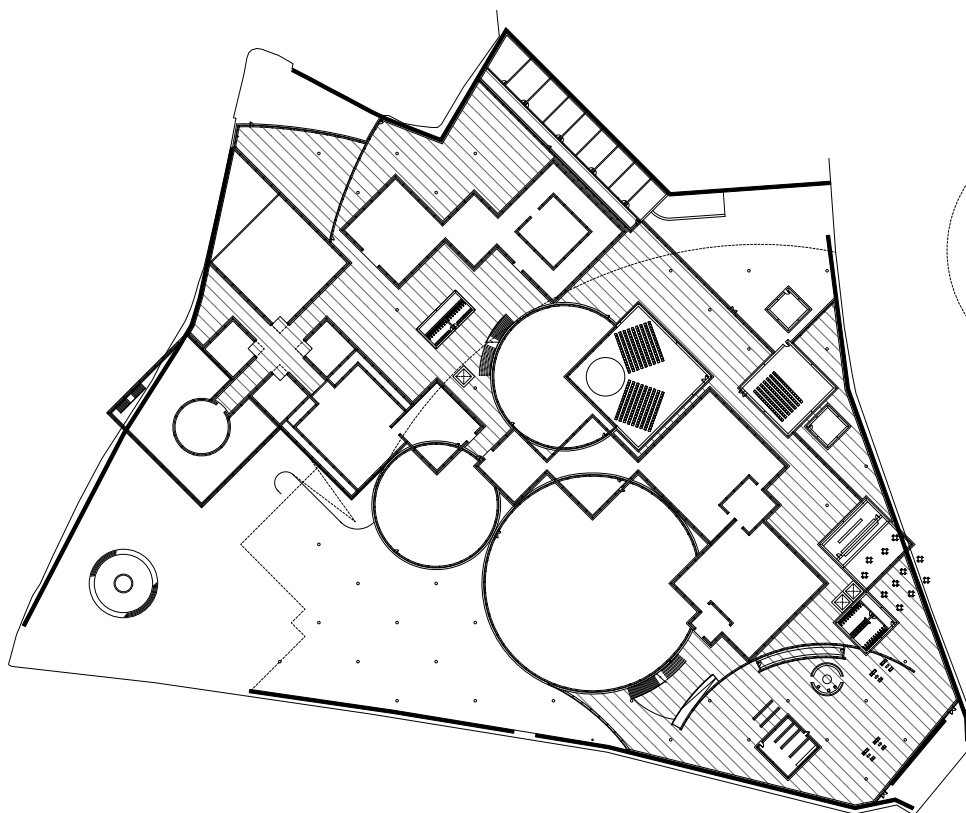
The galleries push back, respond to or take over the wall at various points along it so your perception of your position within the museum and your phenomenal relationship to the wall is constantly shifting. By engaging the wall its status as a fixed artifact separating interior from exterior, or public from private, is constantly shifting as well, heightening the wall's ambiguous status in the city. The museum starts to occupy, envelope and take over the wall within the different departments, transforming it into a piece of art in itself like the art in the museum. It becomes part of the exhibit, constantly engaging the viewer in their experience of the museum and registering the whole. The wall is a cultural artifact, a piece of history like the art inside. It marked a rupture in Korean history, and is now marking a new moment in the history and future of the city.



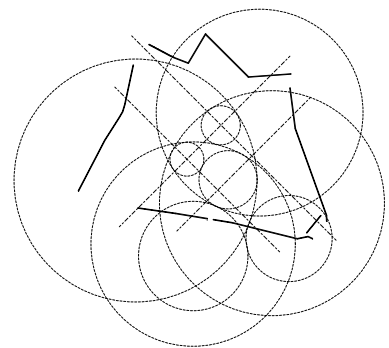
**Circulation/Gallery Sequence Diagram**



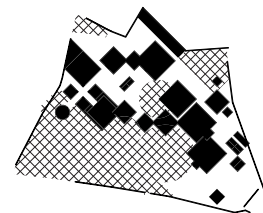
**Basement Floor Plan**



**Ground Floor Plan**

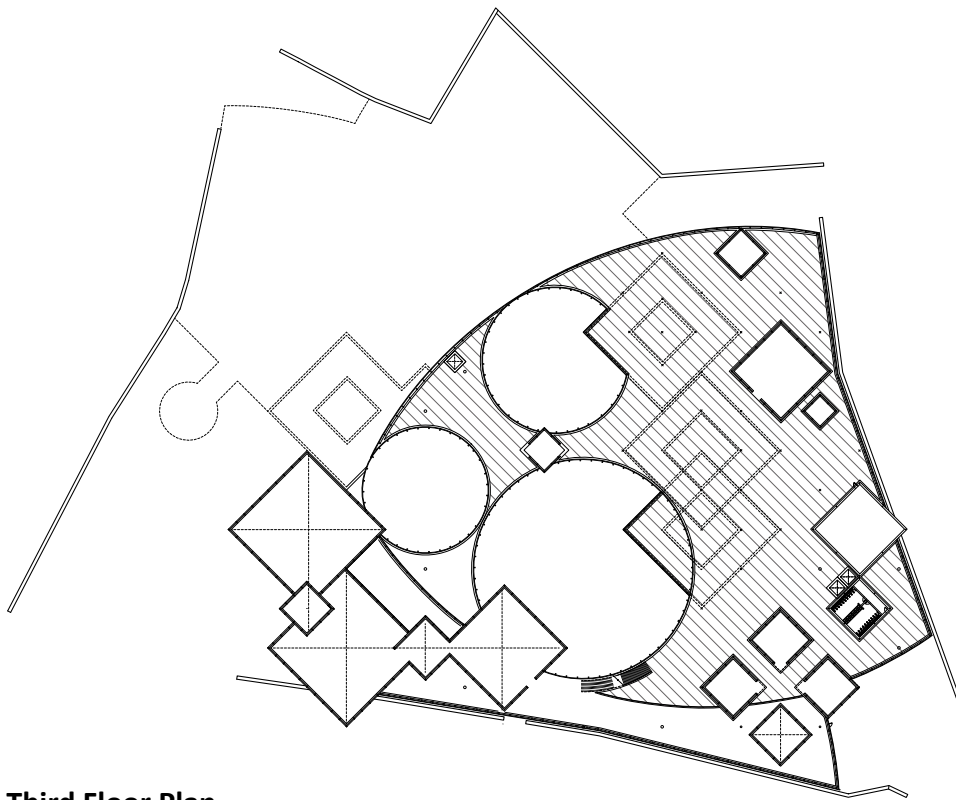


**Arcs + Voids**

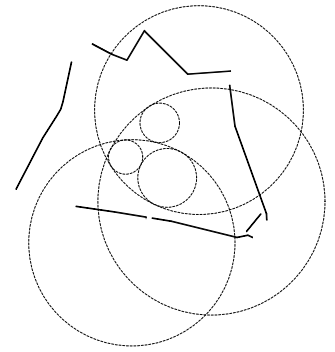


**Field**

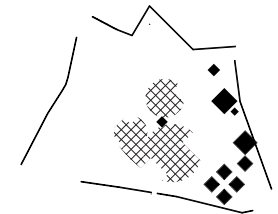




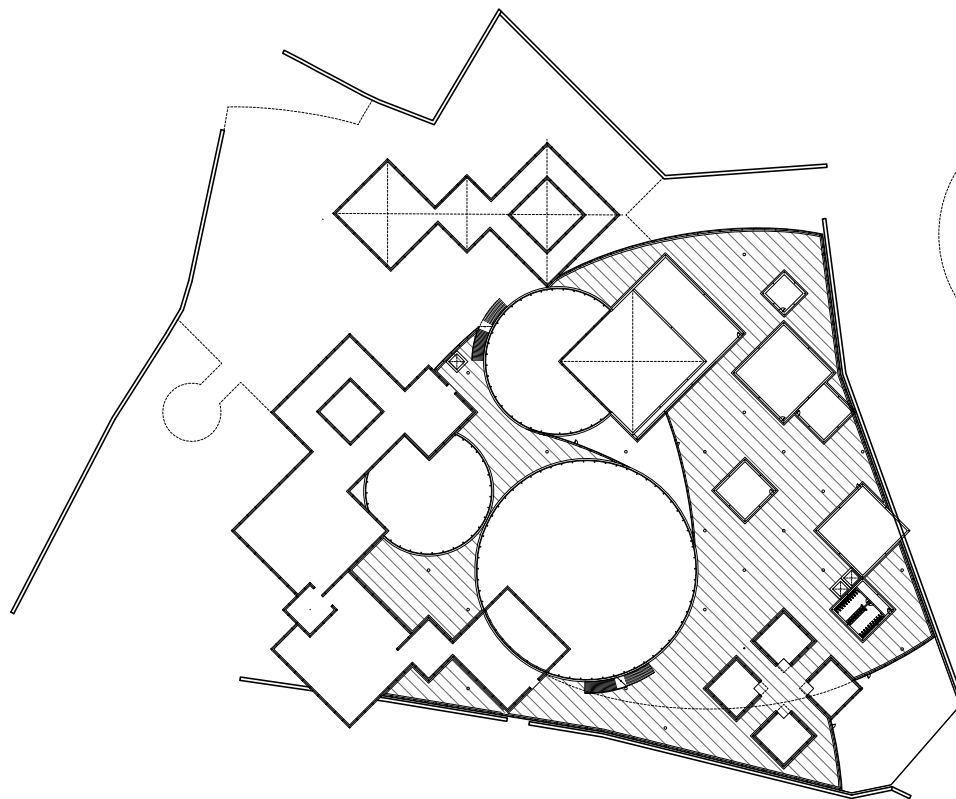
**Third Floor Plan**



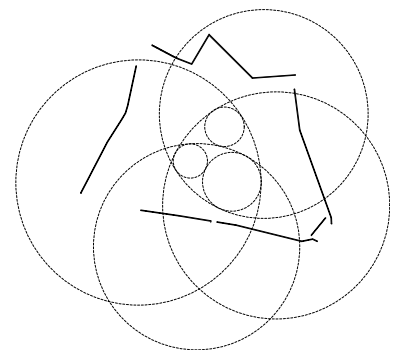
**Arcs + Voids**



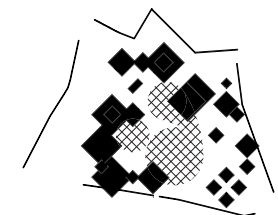
**Field**



**Second Floor Plan**

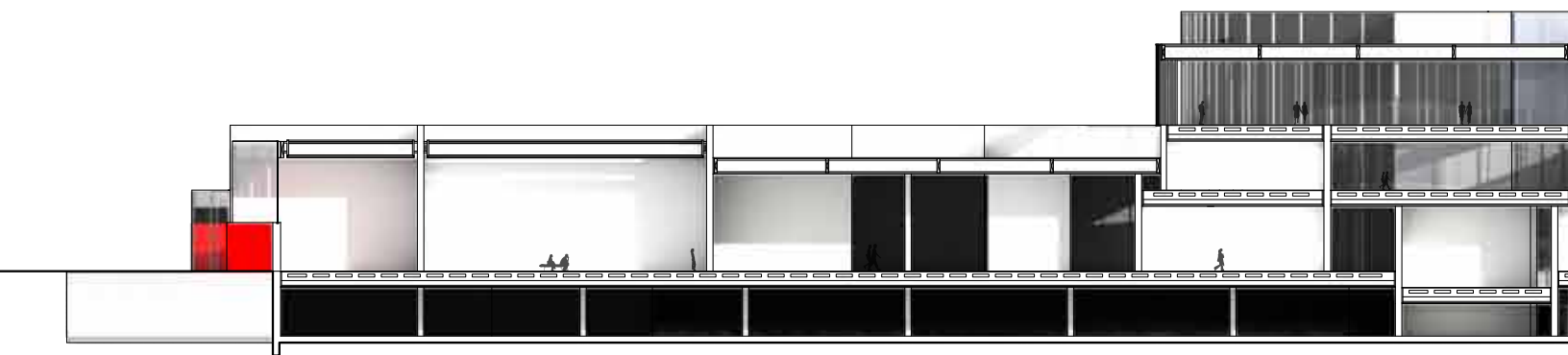


**Arcs + Voids**

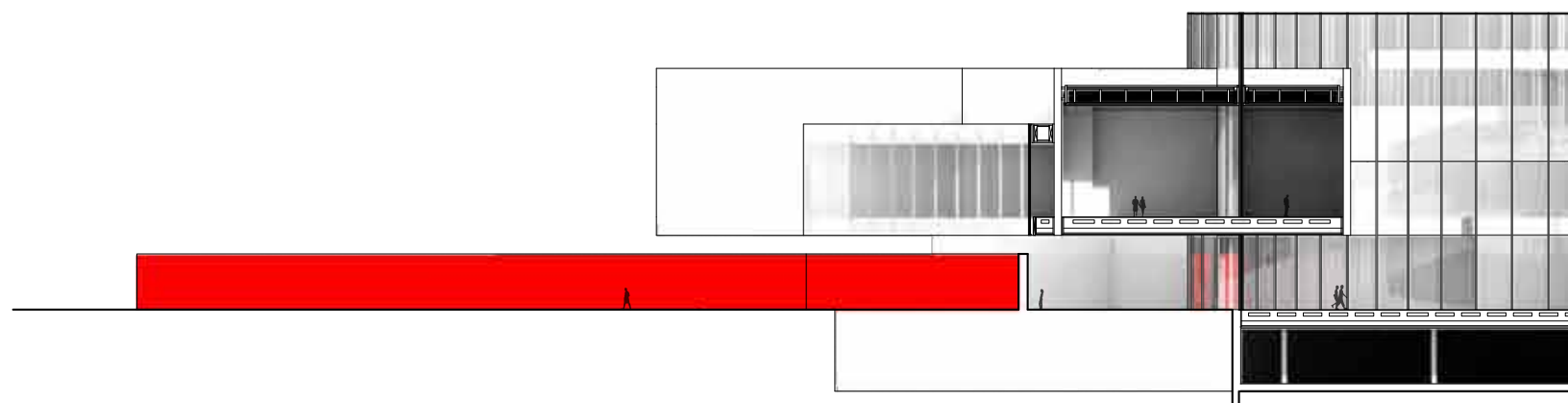


**Field**

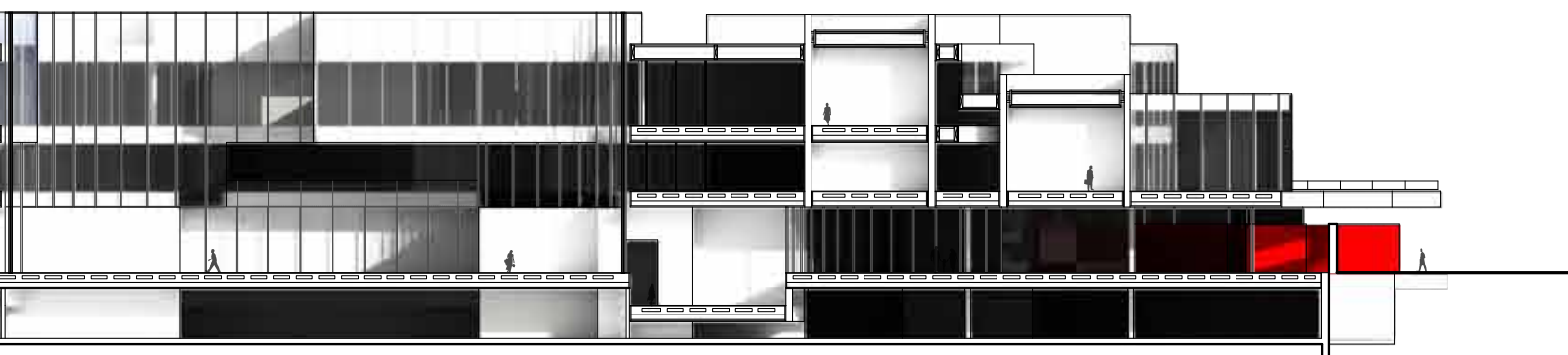
For enlarged plans at 1/32" scale, see Appendix A



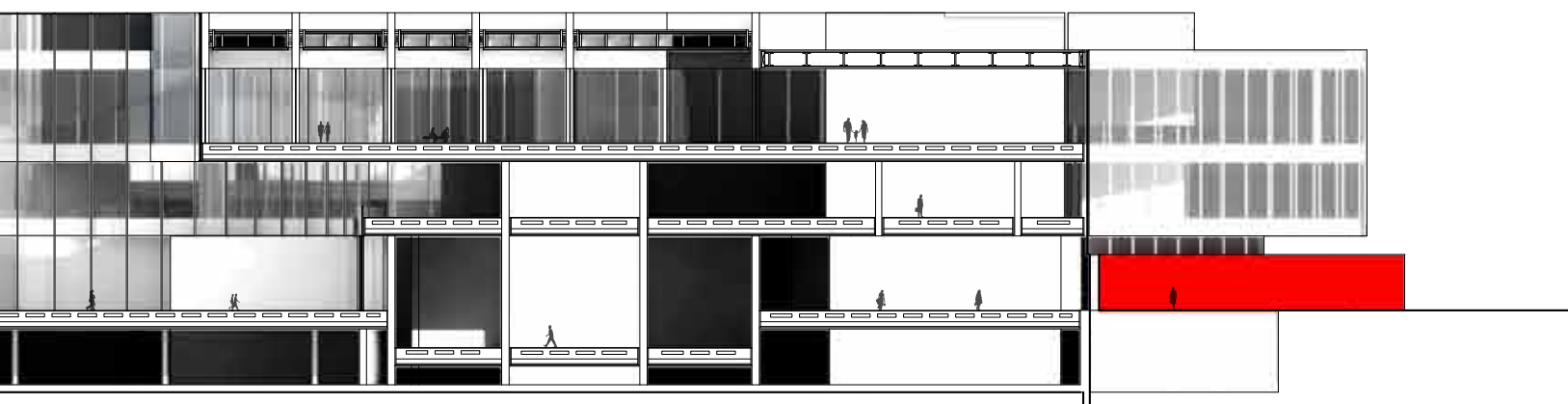
**Longitudinal Section A**



**Cross Section B**



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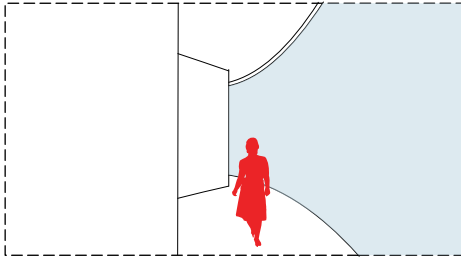


## MUSEUM DESIGN:

Three courtyards or voids are placed within the interior that immediately start to flip the relationship of the wall as the line between interior/exterior and public/private. These voids are organized by a series of arcs that work at the scale of the city and act as datums of occupation, organizing the curatorial departments in section. The relationships among galleries construct a field, based on a grid which confronts the present lack of order in the city. This field implies an infinite extension into the city beyond the physical and perceptual limits of the site. The galleries are contained in square shaped rooms and are placed in a pattern based sequence according to the different curatorial departments. The spaces created through the relationships of voids and field create flex spaces or temporary galleries, where exhibits can merge the different departments together. The relationships between the different galleries can respond to the changing nature of the art inside, striving to create not a singular identity, but one of multiplicity and potential.

The *part to whole* and *figure ground* relationships are analyzed in this project to design a museum that has a clarity in its organization in order to understand one's place within the greater whole of the museum, in time and space. Architectural and Gestalt principles of *figure ground*, *closure*, *symmetry*, *proximity*, *similarity* and *continuity* are instrumentalized in the design to understand the programmatic and formal relationships of void to wall, figure to wall and figure to void. The spatial and volumetric implications of these planimetric relationships are investigated through this design in order to create a more dynamic museum experience.

Through these conceptual and perceptual investigations, this thesis seeks to understand how the dynamic relationship between these shifting figure-ground and solid-void relationships can construct a new understanding of the wall's relationship to the city and reposition our understanding of the wall's place in history and in the future of the city. This museum reflects on the current condition of the city of Seoul and tries to work within the existing disordered parts to suggest greater unity for the future of development in Seoul.



PHENOMONOLOGY

**PERCEPTUAL**

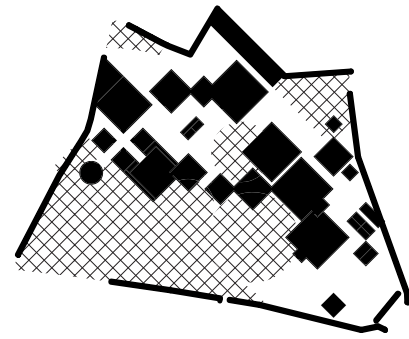
PERSPECTIVE

SHAPE

ACTUAL STRUCTURE OF  
PERCEIVED OBJECT

OBJECT

SEMANTIC



GESTALT

**CONCEPTUAL**

PLAN

FORMAL  
STRUCTURE

IMPLICIT STRUCTURE OF  
RELATIONSHIP BETWEEN  
OBJECTS

IDEA  
CONTEXT

SYNTAX

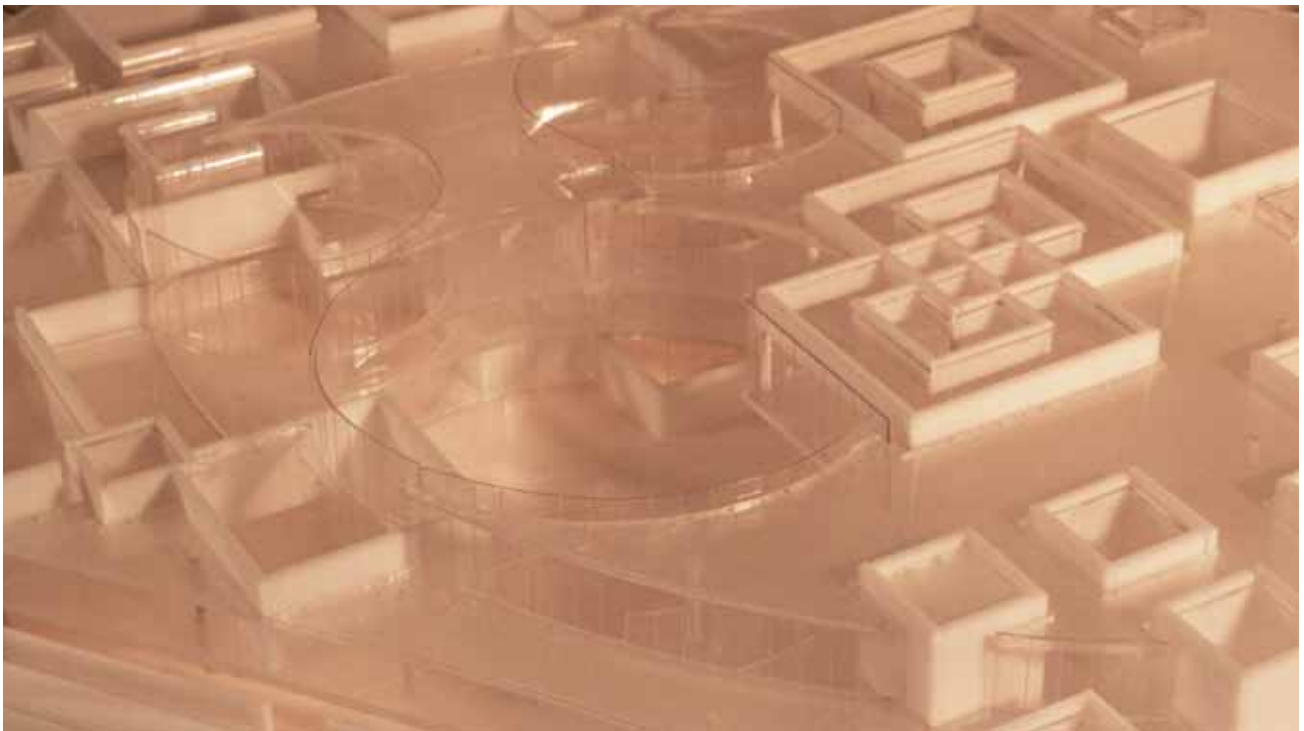
*"In architecture, relationships exist in two ways, in the environment itself and in the individual's ability to understand and relate to them. They exist at a real, concrete level where the individual is aware of them through his senses - perception, hearing, touching, etc. - and they also exist at an abstract or conceptual level in the actual object."*

Peter Eisenmann, "Notes on a Conceptual Architecture: Towards a Definition" (1970).  
*Eisenmann Inside Out: Selected Writings, 1963-1988*. New Haven: Yale University Press, 2004.

**Final Model**

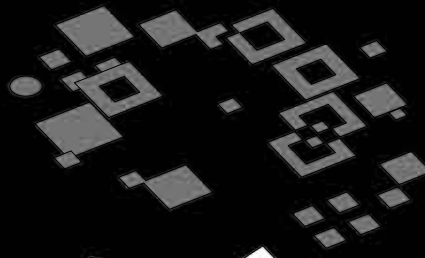


**Final Model Detail**





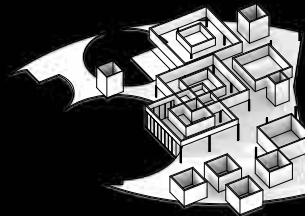
Skylights



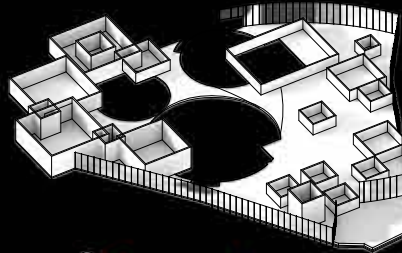
Roofs



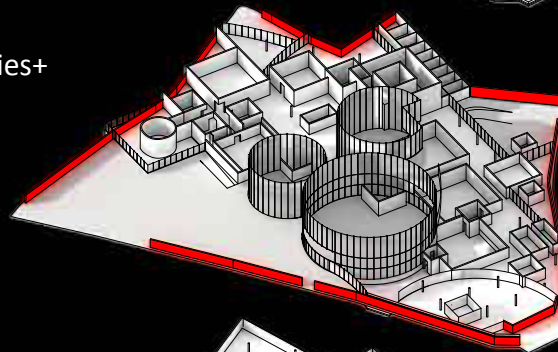
Future Galleries



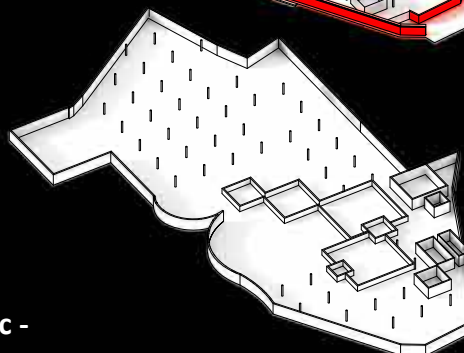
Post-War Galleries



Pre-War Galleries+  
Voids, Wall



Basement Floor



**Exploded Axonometric -  
Building Components**

Pre-War Gallery Sequence Renderings

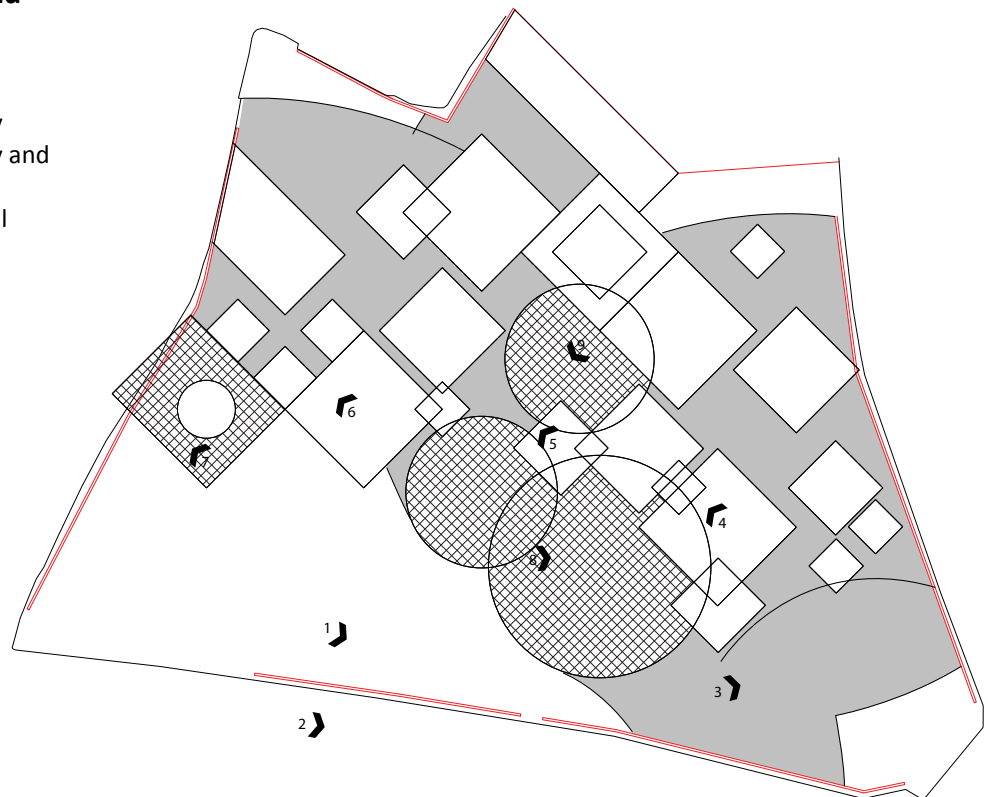






### Gallery Sequence Legend

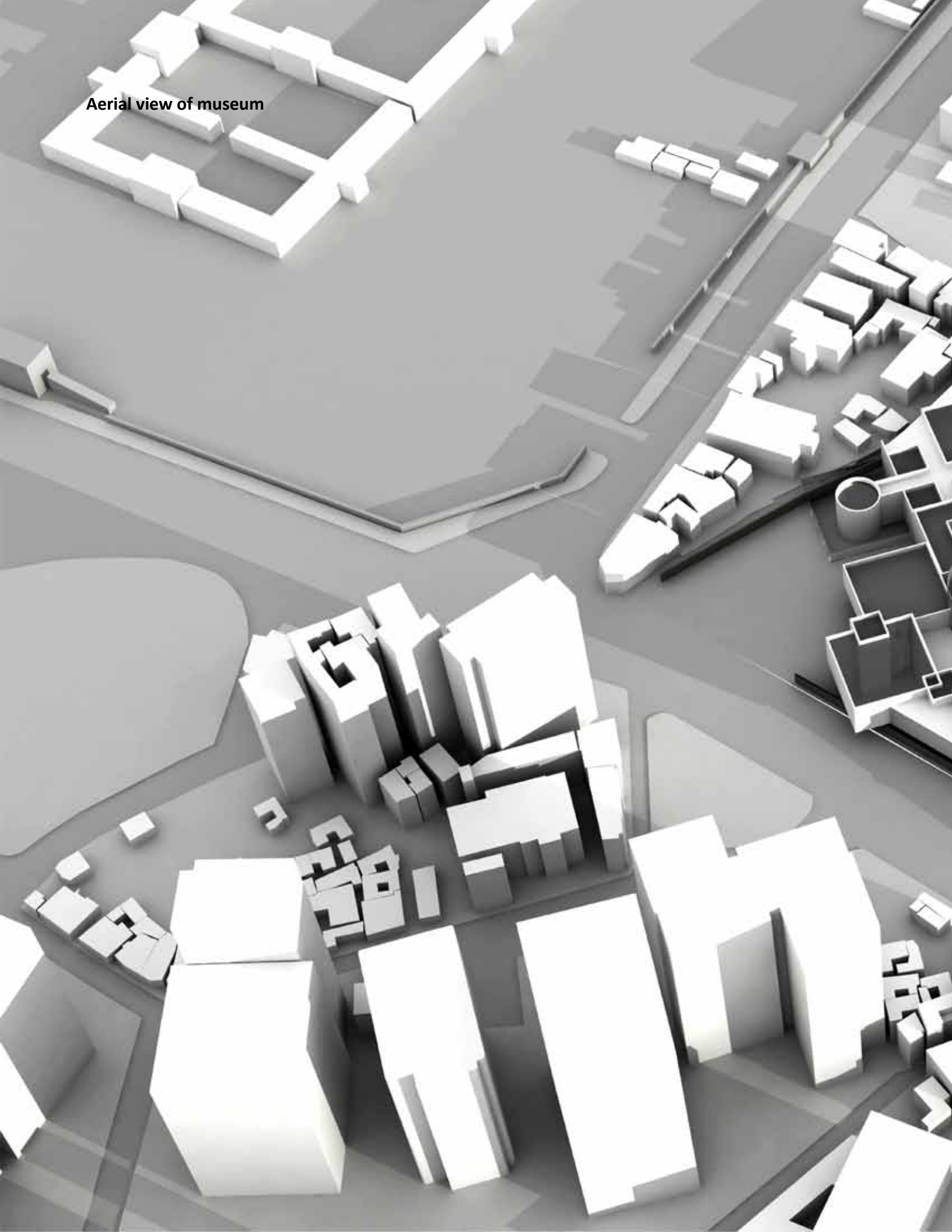
- 1\_ Interior side of wall
- 2\_ Exterior side of wall
- 3\_ Museum entry
- 4\_ Interior of Pre-War Gallery
- 5\_ Interior of Pre-War Gallery and Courtyard
- 6\_ Pre-War Gallery facing wall
- 7\_ Sunken Courtyard
- 8\_ Courtyard/Flex Gallery
- 9\_ Courtyard/Flex Space







Aerial view of museum









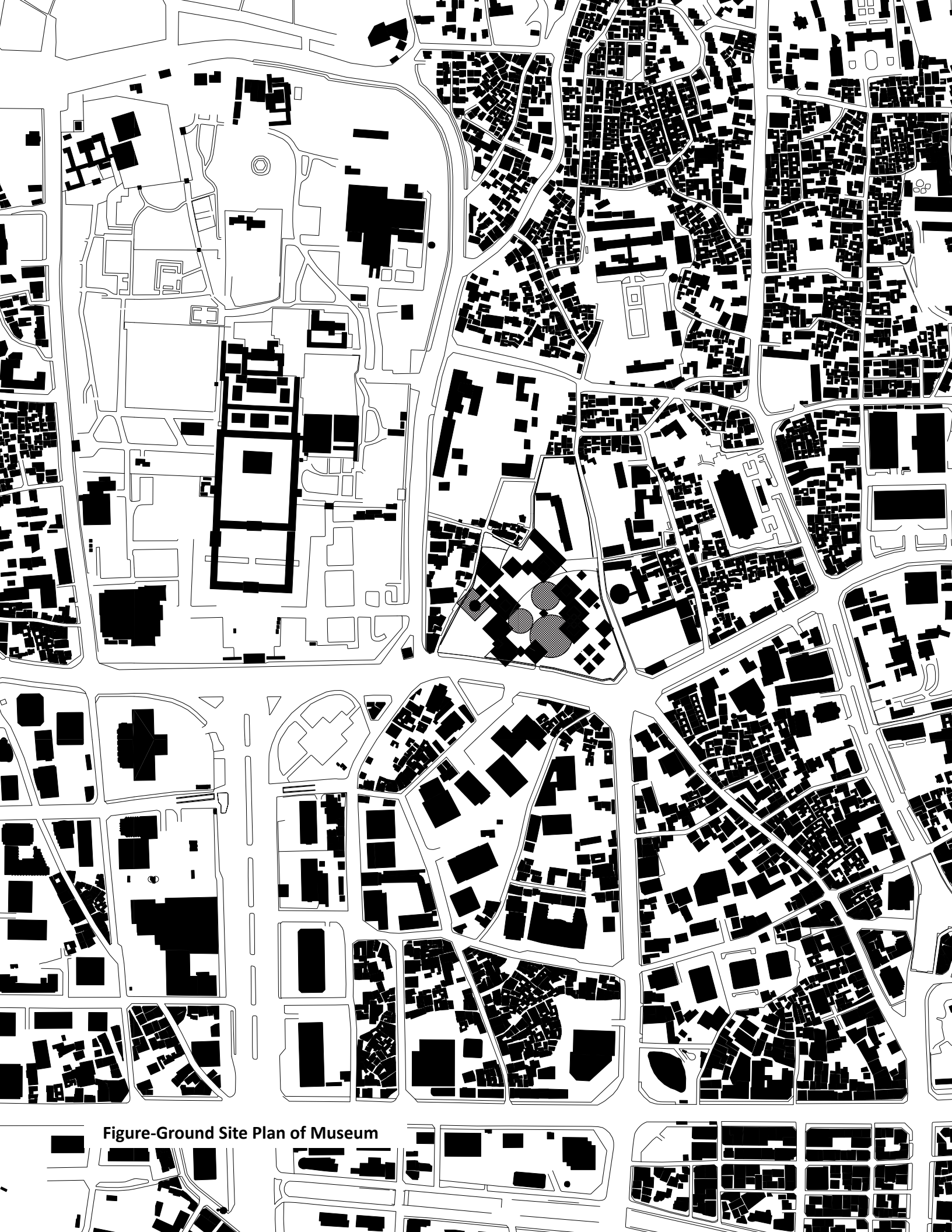


Figure-Ground Site Plan of Museum



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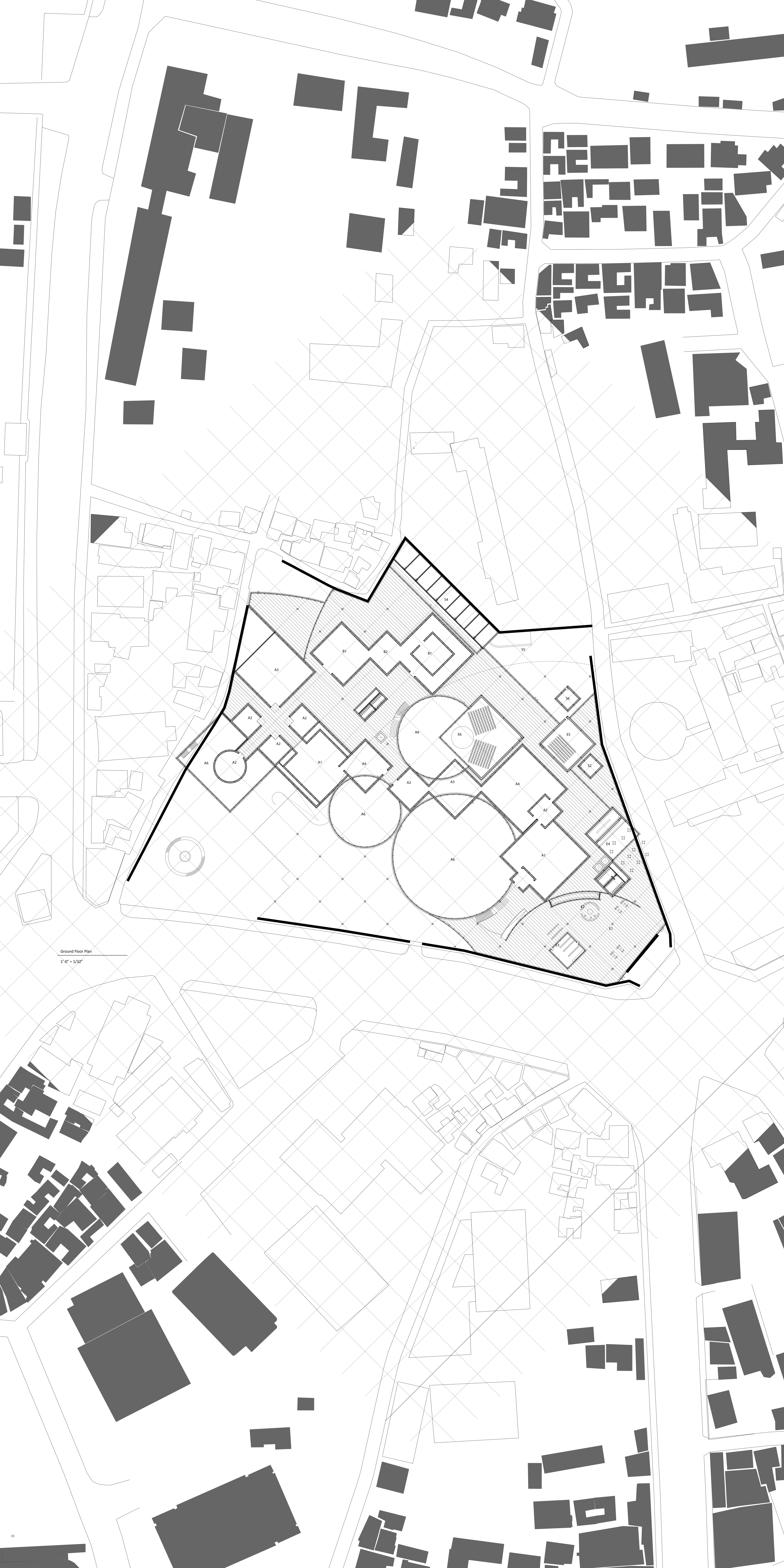
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Ground Floor Plan  
1"=0" = 1/32"



